Listing of Claims

1. (previously presented) An anti-fuse structure comprising:

a substrate having formed therein a conductor contact region;

a metal silicide layer formed over and electrically connected with the conductor contact region;

a first doped polysilicon layer formed upon the metal silicide layer;

an anti-fuse material layer formed upon the first doped polysilicon layer; and

a second doped polysilicon layer formed upon the anti-fuse material layer.

2. (original) The anti-fuse structure of claim 1 wherein the metal silicide layer is formed from a metal selected from the group consisting of titanium, tungsten, cobalt, nickel, platinum, vanadium and molybdenum metals.

3. (original) The anti-fuse structure of claim 1 wherein the anti-fuse material layer is formed from an anti-fuse material selected from the group consisting of amorphous silicon materials, amorphous carbon materials and dielectric materials.

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4. (original) The anti-fuse structure of claim 1 wherein a doped polysilicon layer is not formed interposed between the contact region and the metal silicide layer.

5. (original) The anti-fuse structure of claim 1 further comprising a barrier layer formed interposed between the contact region and the metal silicide layer and contacting the metal silicide layer.

6. (previously presented) An anti-fuse structure comprising:

a substrate having formed therein a conductor contact region;

a metal silicide layer formed over and electrically connected with the conductor contact region;

a first doped polysilicon layer of a first polarity formed upon the metal silicide layer;

an anti-fuse material layer formed upon the first doped polysilicon layer; and

a second doped polysilicon layer of a second polarity opposite the first polarity formed upon the anti-fuse material layer.

7. (original) The anti-fuse structure of claim 6 wherein the

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metal silicide layer is formed from a metal selected from the group consisting of titanium, tungsten, cobalt, nickel, platinum, vanadium and molybdenum metals.

8. (original) The anti-fuse structure of claim 6 wherein the anti-fuse material layer is formed from an anti-fuse material selected from the group consisting of amorphous silicon materials, amorphous carbon materials and dielectric materials.

9. (original) The anti-fuse structure of claim 6 wherein a doped polysilicon layer is not formed interposed between the contact region and the metal silicide layer.

10. (original) The anti-fuse structure of claim 6 further comprising a barrier layer formed interposed between the contact region and the metal silicide layer and contacting the metal silicide layer.

11. (previously presented) A method for forming an anti-fuse structure comprising:

providing a substrate having formed therein a conductor contact region;

forming a metal silicide layer over and electrically connected with the conductor contact region;

forming a first doped polysilicon layer upon the metal silicide layer;

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forming an anti-fuse material layer upon the first doped polysilicon layer; and

forming a second doped polysilicon layer upon the anti-fuse material layer.

12. (original) The method of claim 11 wherein the metal silicide layer is formed from a metal selected from the group consisting of titanium, tungsten, cobalt, nickel, platinum, vanadium and molybdenum metals.

13. (original) The method of claim 11 wherein the anti-fuse material layer is formed from an anti-fuse material selected from the group consisting of amorphous silicon materials, amorphous carbon materials and dielectric materials.

14. (original) The method of claim 11 wherein a doped polysilicon layer is not formed interposed between the contact region and the metal silicide layer.

15. (original) The method of claim 11 further comprising forming a barrier layer interposed between the contact region and the metal silicide layer and contacting the metal silicide layer.

16. (previously presented) A method for forming an anti-fuse structure comprising:

providing a substrate having formed therein a conductor contact region;

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forming a metal silicide layer over and electrically connected with the conductor contact region;

forming a first doped polysilicon layer of a first polarity upon the metal silicide layer;

forming an anti-fuse material layer upon the first doped polysilicon layer; and

forming a second doped polysilicon layer of a second polarity opposite the first polarity upon the anti-fuse material layer.

17. (original) The method of claim 16 wherein the metal silicide layer is formed from a metal selected from the group consisting of titanium, tungsten, cobalt, nickel, platinum, vanadium and molybdenum metals.

18. (original) The method of claim 16 wherein the anti-fuse material layer is formed from an anti-fuse material selected from the group consisting of amorphous silicon materials, amorphous carbon materials and dielectric materials.

19. (original) The method of claim 16 wherein a doped polysilicon layer is not formed interposed between the contact region and the metal silicide layer.

20. (original) The method of claim 16 further comprising forming a barrier layer interposed between the contact region and the metal silicide layer and contacting the metal silicide layer.

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